1 mm sol+quad+cav misalignment in CW lattice and correctors everywhere misaligned by 1 mm Are we able to correct anything ?

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<u>Which lattice</u>: 10 mA CW May 3rd, 2010 lattice
<u>Which TRACK</u>: TRACKv39 (linux, 15-June-2010)
<u>How many runs</u>: statistics on 100 runs (FermiGrid)
<u>How many particles per run</u> : 1 Million

<u>Which errors:</u>

n **ALIGN** name δ_{xy} δ_z ϕ_z $\delta\phi_{dyn.}$ $\delta F_{dyn.}$ $\delta\phi_{static}$ δF_{static}

▶ $\delta_{xy}[cm]$ From the max allowed displacement of element ends, the maximum allowed rotation is calculated. Then the random errors are generated for both displacement and rotation. The generated errors are accepted only if the final displacements of the element ends is within the tolerence (max allowed displacement) specified as input. Uniform distribution.

```
69  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
72  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
74  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
43  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
45  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
80  align  cav  0.1  0.0  0.0  0.0  0.0  0.0  0.0
1   align  sol  0.1  0.0  0.0  0.0  0.0  0.0  0.0
1   align  quad 0.1  0.0  5.0  0.0  0.0  0.0  0.0
```

↑

1000 microns (sol+cav+sol)

What about the correctors:

1 corr + 1 mon / sol
1 corr + 1 mon / double
1 corr + 1 mon / quad (HE)

Monitor resolution : 30 microns
Monitor alignment : 1000 microns
Monitor Max Strength : limited to 5 mrad

Looks like we are able to correct orbit, even with 1 mm BPM misalignment.
Still here only ~70 seeds OK (30 dead). Probably need higher cor. Value (> 5 mrad).